result is an almost certain fatal general tuberculosis. The process begins first in the mediastinum and rapidly extends to the lungs, liver, and kidneys. Opie found that this result could be delayed and in isolated cases cured by the intrapleural injection of a sterile purulent exudate. This sterile exudate is obtained by the intrapleural injections of turpentine in healthy dogs.

Typhoid Toxin Obtained by Means of Lecithin and its Immunizing Action.—BASSENGE (*Deut. med. Woch.*, 1908, xxix, 1257) supplements some observations previously reported. In the earlier observations Bassenge found that a 1 per cent. emulsion of lecithin in sterile distilled water had the property of dissolving typhoid bacilli. If this emulsion was introduced into the peritoneal cavity of guinea-pigs, the animals would be protected against subsequent intraperitoneal inoculation of typhoid bacilli, provided that a period of twenty-four hours had elapsed between the injections. In the present paper he confirms these results. He compared Merck's ovolecithin, brain lecithin, plant lecithin, and agfa-ovolecithin. A 1 per cent. emulsion seemed to be the maximum strength obtainable. To 20 c.c. of the lecithin emulsion, two loopfuls of a twenty-hour broth culture were added. In all of the experiments, all traces of living bacilli disappeared within twenty-four hours. Old ovolecithin seemed to have an almost instantaneous bacteriolytic action. 1 c.c. of the emulsion killed one-third of the animals, while 2 c.c. killed all. By regulating the dose of the emulsion, guinea-pigs were so immunized that they resisted twenty times the lethal dose of virulent typhoid bacilli. This result was obtained when an interval of from twenty to twenty-four hours between the injections was allowed to elapse. The control guinea-pigs died in from seven to nine hours. This immunity persisted as long as thirty-eight days. Bassenge concludes that lecithin is capable of setting typhoid toxins free in sufficient quantities to produce powerful antibodies when the emulsions are introduced for the purpose of immunization. He suggests that the lecithin emulsions may be of value in the treatment of typhoid fever in man. The lecithin may be removed from the emulsion by shaking the emulsion with chloroform and filtering through a Pukal filter.

Restriction of Fluids in Nephritis.—STRAUSS (*Berl. klin. Woch.*, 1908, xxi, 998) does not reject the opinions of Oertel and of von Noorden that large amounts of fluid increase the work of the heart in cases of cardiac insufficiency due to cardiac disease. However, he believes that other equally important factors exist in cases of cardiac insufficiency due to disease of the kidneys. He thinks that an increased amount of fluid is necessary for the removal of the poisonous substances and that their removal will more quickly lighten the work of the heart. He could not determine an increase of the blood pressure when large quantities of fluid were used. His observations on the urine and blood serum and certain animal experiments did show a diminution in the excretion of the poisonous products of metabolism when the amount of fluid was diminished. He, therefore, thinks it absolutely necessary to increase the amount of the fluids, even if an overburdening of the heart is a result. Rest in bed and digitalis should be used to combat this tendency to cardiac weakness. If the heart weakness is marked, Strauss advocates moderate amounts of fluid given in small frequent portions at fixed intervals. Strauss also believes that anasarca in nephritis is a compensatory measure, since the fluid may dilute the retained poisons. If increased fluids are given, the anasarca will disappear in many cases. On the other hand, the anasarca may increase, and then the removal of the fluid by aspiration results in the withdrawal of both fluid and poisonous bodies. If uremic symptoms occur Strauss increases the amount of fluid. Slow, rectal irrigations are of great service (drop method of Wernitz), though he warns of the possible damage to the kidneys from the use of sodium chloride solution.

The Serum Treatment of Chronic Nephritis.—CASPER and ENGEL (*Berl. med. Woch.*, 1908, xli, 1836) give an account of eleven cases of chronic nephritis treated with serum which they obtained in the following manner: 50 to 60 c.c. of blood was withdrawn by venesection from a given case of nephritis. This blood furnished 25 to 30 c.c. of serum which, after warming to 58° C., was injected in healthy dogs. The dogs were injected once or twice a week in gradually increasing doses until eight or ten injections had been given. The dogs were then bled and the serum obtained. This serum was injected in small doses in cases of nephritis until, after repeated injections, no constitutional reaction occurred. Then normal human serum and even at times normal animal serum was injected for the purpose of supplying the complement. Their findings were as follows: (1) The treatment is harmless. (2) In some cases the amount of albumin and the number of casts in the urine remained the same; in others, they diminished and even entirely disappeared. (3) In all the cases, the general condition was benefited. (4) The œdema disappeared. They believe that the serum has no effect on the kidney tissue already diseased, but that it may prevent the extension of the process. They explain in this way the apparent absence of effect upon the amount of the albumin and number of the casts in some of the cases in which the other symptoms improved.

The Action of Arsenic on the Red Blood Corpuscles and a Theory of the Blood Defect in Pernicious Anemia.—GUNN (*Brit. Med. Jour.*, 1908, 2481, 145) draws the conclusions from his experiments that arsenious acid forms a fixed combination with red blood cells and acts as a protective agent against hemolytic agencies. His experiments were concerned with the hemolytic action of distilled water. The protective action of arsenic was perceptible when the experimental solution was as weak as one in 400,000 The ordinary maximum dose of arsenic is 0.005 gram, and if this was all absorbed, the amount of arsenic in the blood would be one in a million. However, arsenic is frequently given in larger doses in the organic combinations, and it is very slowly eliminated. Furthermore, arsenic seems to attach itself so rapidly and so firmly to the red blood cells that it is probable that the drug is largely taken up by them. Therefore, he believes that arsenic is of benefit in pernicious anemia because it prevents the destruction of the red blood cells. He also believes that arsenic protects the red blood cells from invasion by the malarial parasite, but that it does not destroy the parasite. His theory of pernicious anemia is not an entirely new one. He thinks